

ILLINOIS OCCUPATIONAL AND ENVIRONMENTAL HEALTH AND SAFETY EDUCATION AND RESEARCH CENTER

**SUMMARY ANNUAL REPORT
July 1, 2008 – June 30, 2009
NIOSH Training Grant
No. T42 OH 008672**

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The Illinois ERC exists to improve, promote, and maintain the health of workers and communities by applying innovative and interdisciplinary approaches to:

- prepare professionals to be leaders in occupational and environmental safety and health who will direct and manage occupational and environmental safety and health programs, teach other occupational and environmental health professionals, and research issues pertinent to occupational and environmental safety and health;
- provide continuing education to occupational and environmental health and safety professionals and outreach to workers and communities to improve their knowledge, skills, and awareness of key issues in occupational and environmental safety and health, devoting special attention to the problems and needs of at risk and underserved workers and communities;
- contribute to the knowledge base in occupational and environmental safety and health by preparing doctoral students, performing faculty and student research on problems of regional, national, and global significance, and disseminating the results of their research; and
- serve as a regional OS&H information resource.

The University of Illinois at Chicago Occupational and Environmental Health and Safety Education and Research Center (Illinois ERC), a National Institute for Occupational Safety and Health (NIOSH) funded training grant has completed year one of a five year project period (2008-2013). The ERC provides MS and PhD training in industrial hygiene, occupational health nursing, occupational safety, and occupational epidemiology as well as occupational medicine residency training, including a MPH graduate degree, and specialized training in hazardous substances and in agricultural safety and health to students in a variety of degree programs. Additionally, the continuing education and outreach program exists as a resource on occupational health and safety issues for all and to support the goals and objectives of the NIOSH Training Grants Program and the WHO Global Plan of Action on Workers' Health 2007-2017. The Illinois ERC supports two research training programs, a pilot project research training program which provides small grants to new occupational safety and health investigators and a targeted research training program that provides support to interdisciplinary research training teams.

The Illinois ERC, funded since 1977 and comprised of 13 programs, is a multi-campus, multi-college Center that is administratively housed in the Environmental and Occupational Health Sciences Division in the School of Public Health. Five academic programs, three continuing education programs, two research training programs, and a center administration program were funded during the 2007-2008 reporting period. Two new programs, in occupational safety and occupational and environmental epidemiology began on July 1, 2008 and in the first year there were 4 occupational safety trainees (2 NIOSH funded) and 4 occupational and environmental epidemiology trainees. Over the past 30 years, the Illinois ERC has worked with professional associations, government agencies, other university and college programs, and individuals to understand and address the occupational safety and health training needs in the region, nationally, and internationally.

2008-2009 Highlights

- During the 2008-2009 reporting year, the Illinois ERC supported 23 full time and 15 part time trainees in seven academic programs and graduated 12 trainees, including 6 MS, 1 PhD, 2 BS, and 2 occupational medicine residents. Additionally, approximately 130 other trainees took occupational health and safety courses. The continuing education programs (core CE, agricultural safety and health, and hazardous substances) provided 2169 person-days of training in 77 courses and trained 2700 persons.
- A new American Society of Safety Engineers Student Chapter at UIC was chartered in April 2009
- The Industrial Hygiene Student Association continues to be active
- Dr. Steven Lacey was elected to the AIHA National Board of Directors.
- Mr. Salvatore Cali was elected to the AIHA Chicago Section Board of Directors.
- Four students declared the new minor in agricultural safety and Health. One student completed the requirements for the minor.
- The UIC/Stroger Consult service underwent restructuring. There are now multiple UIC medical students and outside residents signed up for the rotation this year.
- The occupational medicine residency program signed up for the ERAS application system, allowing candidates to apply to our program on-line.

- The OM residency didactic curriculum was reformatted for the 2009-2010 academic year: the weekly morning conferences will follow a two-year curriculum based on the residency competencies and knowledge content areas.
- The continuing education program partnered with scientists from EPA Region 5 on an International Nanotechnology Conference. There were multiple scientific sessions and poster discussions with 193 participants from the United States, Europe, Asia and Australia. Revenue generated from the conference was directed to supporting UIC graduate students to learn more about the emerging field of nanotechnology. ERC faculty created and offered a 1 sh course (EOHS 594 Advanced Special Topics in EOHS: Health Risk of Emerging Technologies) for UIC students during the 2009 summer session. Joseph Zaroni, MILR (EOHS), Irina Dardynskaia, MD, PhD (EOHS), Krishna Reddy, PhD (civil and materials engineering), Warren Lynne, PhD (EPA nanotechnology liaison), An Li, PhD (EOHS), and John Breskey, PhD Candidate (IH trainee) presented lectures during the course. Student presentations were on the following topics: Nanoparticles Transport in soil and ground water by Hanumanth S. Kulkarni, Nanotechnology Policy by Melissa Naiman, MS, EMT-B, PMP, Surface Modifications Enhance Nanoiron Transport and NAPL Targeting in Saturated Porous Media (article review) by Kenneth Darko-Kayga, and Genotoxicity of nanomaterials: DNA damage and micronuclei induced by carbon nanotubes and graphite nanofibres in human bronchial epithelial cells *in vitro* (article review) by Jo Anna Shimek.

Awards and Scholarships

- Chirag Patel (IH Trainee) was awarded scholarships from the American Industrial Hygiene Foundation and the American Society of Safety Engineers
- Maria Gutierrez (IH Student) received a travel scholarship to the 2008 American Public Health Association conference
- Bogdan Catalin (IH Trainee) received a best poster award at the University of Illinois at Chicago School of Public Health Annual Research Day
- Jo Anna Shimek (IH Trainee) received a best poster award at the AIHA Chicago Local Section Student Night
- John Breskey received an Institute for Environmental Science and Policy Graduate Fellowship (a UIC Division) in 2008, which freed up support for another IH trainee in the 2008-2009 academic year.
- John Breskey also received an Argonne National Laboratory Center for Nanoscale User Award that allows access to a nanoscale research facility.
- PhD candidate Anders Abelman received a Sweden–American Foundation Scholarship and a Marcus Wallenberg Foundation Scholarship

Graduate Employment

- IH graduates have taken positions with Chemrisk, US Dept. of Energy NNSA (3 trainees), ArcelorMittal USA, Univ of Chicago Med Center, Illinois State University (assistant professor position)
- OHN graduates have taken positions with private healthcare provider, Black Lung clinic at Stroger Hospital, and Elmhurst College (assistant professor position)
- One OM graduate has taken a position in private occupational medicine and one is seeking employment
- Agricultural safety and health trainees have taken positions as a veterinarian in a clinic in IL, with Cargill Grain Company, and one is a graduate student in the OS program in the Illinois ERC
- Emily Morehouse who graduated 3 years ago and who had been a youth program director for University of Kansas Extension program took a position this past January with USDA as the program assistant to the person who oversees the agricultural safety and health research and outreach program for USDA. A primary reason for her to be hired was the training she received as a trainee in our agricultural safety and health emphasis program as a graduate student.

Student leadership

- Anders Abelman (IH Student) – Chair of Environmental Section of the Illinois Public Health Association

Students receiving NIOSH Pilot Project Grants

- Chirag Patel (IH Trainee), "Modeling PAH generation in high speed grinding operations"
- John Breskey (IH Trainee), "Morphological Assessment of Welding Fume from Source to Receptor"

Student Presentations (trainees are underlined; ¹NIOSH funded trainee)

B Catalin¹, S Erdal, J Bresky, P Scheff: Size-Fractionated Area Concentrations at a Fixed-Site near Urban Demolition Sites, AIHCE, June 2009, Toronto, Canada

A Abelman, NA Esmen, S Erdal: Development of a Semi-Empirical Relationship between Welding Fume Concentrations and Welding Process, Environmental, and Physiological Parameters, AIHCE, June 2009, Toronto, Canada

- R Lopez¹, S Cali, S Dorevitch, P Scheff: Assessing Aerosol Exposure While Recreating on the Chicago Waterways by Using a Microbial Indicator, AIHCE, June 2009, Toronto, Canada
- J Shimek¹, JFM Lewis, S Erdal, F Davis: Occupational Chemical Exposure Assessment in a Brain Cancer Case-Control Study, AIHCE, June 2009, Toronto, Canada
- JD Breskey, S Erdal: Assessment of Hexavalent Chromium in Welding Fume under Laboratory-Controlled Conditions, AIHCE, June 2009, Toronto, Canada
- C Patel¹, N Esmen, S Lacey, K Kennedy: Examination of randomly censored, historical metal dust exposure data from a jet engine manufacturer, AIHCE, June 2009, Toronto, Canada
- M Gutierrez, APHA, November 2008, San Diego, CA
- M Gutierrez, 2008 National Occupational Injury Research Symposium
- Miller A, Sorokin O, Birman D, Zenk S, Connor JB¹: Spousal differences in the effects of neighborhood social context on immigrant cultural alienation, APHA 136th Annual Meeting and Expo (10/25/08-10/29/08) ""
- Jorgia Connor¹ (2008, October). *Introduction to health research: Occupational Stress and Adaptation Experiences of Foreign Educated Nurses from the Philippines*. Presented for Concepts and Processes in Professional Nursing, University of Illinois at Chicago
- Sarah Katula¹ spoke on an expert panel for the 18th Judicial Court Family Violence Coordinating Council on abused women in the workplace (October 2008).
- MD Downs¹ & RA Aherin. 2009. Prevalence of lighting & Marking on farm equipment operated on Illinois roadways. Technical paper no. 09-10 presented at the National Institute for Farm Safety annual conference, New Orleans, LA June, 2009.
- JJ Pruemmer¹ & RA Aherin. 2009. Illinois large animal veterinary safety study. Technical paper no. 09-13 presented at the National Institute for Farm Safety annual conference, New Orleans, LA June, 2009.

Publications

For a list of publications, please visit our website: www.uic.edu/sph/erc